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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/666,246  | 09/22/2003  | Kazunari Tonami      | 242243US2           | 9509             |
| 22850   | 7590        | 08/28/2007           | EXAMINER            |                  |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.<br>1940 DUKE STREET<br>ALEXANDRIA, VA 22314 |             |                      | VO, QUANG N         |                  |
| ART UNIT  |             | PAPER NUMBER         |                     |                  |
| 2625  |             |                      |                     |                  |
| NOTIFICATION DATE   |             | DELIVERY MODE        |                     |                  |
| 08/28/2007  |             | ELECTRONIC           |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|                              |                         |                     |  |
|------------------------------|-------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b>  | <b>Applicant(s)</b> |  |
|                              | 10/666,246              | TONAMI ET AL.       |  |
|                              | Examiner<br>Quang N. Vo | Art Unit<br>2625    |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 22 September 2003.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-42 is/are pending in the application.  
 4a) Of the above claim(s) 6-20,26-30,32-34,36,38-40 and 42 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-5,21-25,31,35,37,41 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 2/18/04;01;19/07.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

Applicant's election with traverse of restriction in the reply filed on 08/06/2007 is acknowledged. The traversal is on the ground(s) that the search and examination made without serious burden. This is not found persuasive because the inventions are distinct, each from each other, requiring separate consideration and search in different class/subclass as listed in restriction. Furthermore the reference (US 7,006,253) used in rejecting claims 1-5, 31, 37 can not be used to reject other group of claims without further search.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 37, 41 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 18 is drawn to functional descriptive material NOT claimed as residing on a computer readable medium. MPEP 2106.IV.B.1  
(a) (Functional Descriptive Material) states:

"Data structures not claimed as embodied in a computer-readable medium are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer."

"Such claimed data structures do not define any structural or functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized."

Claims 37, 41, while defining a program, does not define a "computer-readable medium" and is thus non-statutory for that reasons. A program can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-readable medium" in order to make the claim statutory.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 31, 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Fuchigami et al. (Fuchigami) (US 7,006,253).

With regard to claim 1, Fuchigami discloses an image processing apparatus (column 7, lines 58-59) comprising: an input unit that acquires a RGB signal corresponding to a color image (column 8, lines 6-8); a conversion unit that converts the RGB signal into a CMY signal (column 8, lines 6-11); an extraction unit that extracts an image attribute from the CMY signal (column 9, lines 22-55); and a processing unit that applies, based on the image attribute, an adaptive image processing to the RGB signal (column 8, lines 16-46).

With regard to claim 2, Fuchigami discloses wherein the extraction unit calculates an edge amount of the color image as the image attribute (column 1, lines 54-63).

With regard to claim 3, Fuchigami discloses wherein the extraction unit generates an image area separating signal that is used to separate an image into a plurality of areas as the image attribute (column 8, lines 16-23).

With regard to claim 4, Fuchigami discloses wherein the conversion unit changes a conversion coefficient for converting the RGB signal into the CMY signal based on a type of the color image (column 8, lines 23-30).

With regard to claim 5, Fuchigami discloses wherein the type of the color image is any one of a print image, a photographic printing paper image, and a photocopy image (column 1, lines 47-50, column 2, lines 64-67).

With regard to claim 31, Fuchigami discloses an image processing (column 7, lines 58-59) method comprising: acquiring a RGB signal corresponding to a color image (column 8, lines 6-8); converting the RGB signal into a CMY signal (column 8, lines 6-11); extracting an image attribute from the CMY signal (column 9, lines 22-55); and applying, based on the image attribute, an adaptive image processing to the RGB signal (column 8, lines 16-46).

Referring to claim 37:

Claim 37 is a computer product claim corresponding to operation of the device in claim 1 with method steps corresponding directly to the function of device elements in claim 1. Therefore claim 37 is rejected as set forth above for claim 1.

Claims 21-25, 35, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuchigami et al. (Fuchigami) (US 7,006,253) and in view of Fan et al. (Fan) (US 6,621,595).

With regard to claim 21, Fuchigami discloses an image processing apparatus (column 7, lines 58-59) comprising: an input unit that acquires a RGB signal corresponding to a color image (column 8, lines 6-8); a first conversion unit that converts the RGB signal into a CMY signal (column 8, lines 6-11); a first extraction unit that extracts a first image attribute from the CMY signal (column 9, lines 22-55); a second conversion unit that generates image signals required for determining whether an image to be processed is character image or halftone image from the RGB signal (column 8, lines 16-26); a second extraction unit that extracts a second image attribute from the signal generated by the second conversion unit (column 8, lines 26-30); and a processing unit that applies, based on the first image attribute and the second image attribute, an adaptive image processing to the RGB signal (column 8, lines 33-48).

Fuchigami differs from claim 21, in that he does not explicitly teach generates a signal including either of a luminance/chrominance difference signal and a lightness/chromaticity signal from the RGB signal.

Fan discloses generating a signal including either of a luminance/chrominance difference signal and a lightness/chromaticity signal from the RGB signal (detail 42, figure 7, block 704).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Fuchigami to include generating a signal including

either of a luminance/chrominance difference signal and a lightness/chromaticity signal from the RGB signal as taught by Fan. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Fuchigami by the teaching of Fan to be used for image processing to perform a number of image enhancements for scanned document images. These image enhancements include text edge sharpening, text edge darkening, color fringe removal (detail 2).

With regard to claim 22, Fuchigami discloses wherein the first extraction unit calculates an edge amount of the color image as the first image attribute (column 8, lines 60-66), and the second extraction unit generates an image area separating signal that is used to separate an image into a plurality of areas as the second image attribute (column 8, lines 23-30).

With regard to claim 23, Fuchigami discloses wherein the first extraction unit calculates the edge amount from a C signal and an M signal of the CMY signal as the second image attribute (column 15, lines 21-29).

With regard to claim 24, Fuchigami discloses wherein the first conversion unit changes a conversion coefficient for converting the RGB signal into the CMY signal based on a type of the color image (column 8, lines 23-30).

With regard to claim 25, Fuchigami discloses wherein the type of the color image is any one of a print image, a photographic printing paper image, and a photocopy image (column 1, lines 47-50, column 2, lines 64-67).

Referring to claim 35:

Claim 35 is the method claim corresponding to operation of the device in claim 21 with method steps corresponding directly to the function of device elements in claim 21. Therefore claim 35 is rejected as set forth above for claim 21.

Referring to claim 41:

Claim 41 is a computer product claim corresponding to operation of the device in claim 21 with method steps corresponding directly to the function of device elements in claim 21. Therefore claim 41 is rejected as set forth above for claim 21.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Vo whose telephone number is 5712701121. The examiner can normally be reached on 7:30AM-5:00PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Y. Poon can be reached on 5712727440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Quang Vo*

Quang N. Vo 8/18/07  
Patent Examiner



KING Y. POON  
SUPERVISORY PATENT EXAMINER